

## CLAIMS

What is claimed is:

- 1        1.        A method of testing storage media in a storage device, said method comprising  
2        the steps of:
  - 3                a)        inserting a physical storage volume into an input area in a storage device;
  - 4                b)        scanning an input area on said physical storage volume;
  - 5                c)        moving said physical storage volume to a drive capable of testing storage  
6        media in said physical storage volume;
  - 7                d)        testing said storage media; and
  - 8                e)        returning tested said physical storage volume to said input area.
  
- 1        2.        A method of testing storage media in a storage device as in claim 1, wherein the  
2        step (a) of inserting said physical storage volume comprises the steps of:
  - 3                i)        selecting storage media for test;
  - 4                ii)       selecting an input area for inserting said physical storage volume;
  - 5                iii)      inserting said physical storage volume into said selected input area; and,
  - 6                iv)      waiting to start testing.
  
- 1        3.        A method of testing storage media in a storage device as in claim 2, wherein the  
2        step (a) of inserting said physical storage volume further comprises the step of:
  - 3                v)        determining whether a library manager is in automatic mode.
  
- 1        4.        A method of testing storage media in a storage device as in claim 3, wherein the  
2        step (a) of inserting said physical storage volume further comprises the step of:
  - 3                v)        indicating that said library manager must be in automatic mode before  
4        proceeding to scanning step (b).

1        5.        A method of testing storage media in a storage device as in claim 1, wherein the  
2        step (b) of scanning the input area further comprises queuing scanned physical storage  
3        volumes for testing.

1        6.        A method of testing storage media in a storage device as in claim 1, wherein the  
2        step (c) of moving said physical storage volume comprises fetching a test media  
3        command and moving said physical storage volume responsive to said test media  
4        command.

1        7.        A method of testing storage media in a storage device as in claim 1, wherein the  
2        testing step (d), further comprises:  
3               i)        determining if additional physical storage volumes are inserted for testing;  
4        and,  
5               ii)       returning to moving step (c) for testing any remaining inserted said  
6        physical storage volumes.

1        8.        A method of testing storage media in a storage device as in claim 1, wherein said  
2        storage media said physical storage volume tested in step (c) is tested without inserting  
3        logical volumes on tested said storage media into a data library.

1        9.        A method of testing storage media in a storage device as in claim 1, wherein test  
2        results are reported to an operator.

1        10.       A method of testing storage media in a storage device as in claim 1 further  
2        comprising the steps of:  
3               f)        inserting logical volumes on tested said storage media into a data library,  
4        inserted logical volumes in said data library being accessible by host devices.

1        11.     A computer program product for testing storage media independent of inclusion  
2        in a data library, said computer program product comprising a computer usable medium  
3        having computer readable program code thereon, said computer readable program code  
4        comprising:  
5                computer readable program code means for managing and administering data in a  
6        data library, data in said data library being stored on removable storage media;  
7                computer readable program code means for scanning an input area on test storage  
8        media and queuing corresponding test media commands for scanned said test storage  
9        media;  
10               computer readable program code means for selectively testing scanned said test  
11        storage media and indicating test results; and  
12               computer readable program code means for moving tested said scanned  
13        removable storage media to an input area, wherein said tested storage media are tested  
14        without being inserted into said data library.

1        12.     A computer program product for testing storage media as in claim 11, wherein  
2        said computer readable program code means for selectively testing test media comprises:  
3                computer readable program code means for selecting said scanned test storage  
4        media stored in said input area;  
5                computer readable program code means for directing transport of selected said  
6        scanned test storage media from said input area to a media drive; and  
7                computer readable program code means for testing media in said media drive.

1        13.     A computer program product for testing storage media as in claim 12, further  
2        comprising:  
3                computer readable program code means for determining whether all said scanned  
4        test storage media has been tested; and

5 computer readable program code means for selecting a next said scanned test  
6 storage media responsive to a determination that all said scanned test storage media have  
7 not been tested.

1 14. A storage subsystem for storing and administering data in a data library, said  
2 storage subsystem capable of testing removable storage media comprising:  
3 a bulk input rack storing removable storage media and test storage media;  
4 a plurality of storage media drive units accessing data stored on said removable  
5 storage media;  
6 an accessor selectively moving ones said removable storage media and said test  
7 storage media to a selected one of said one or more drive units;  
8 a visual input unit reading media identification information on selected said  
9 removable storage media and said test storage media; and  
10 at least one if said plurality of storage media drive units testing a selected said test  
11 storage media.

1 15. A storage subsystem as in claim 14, further comprising;  
2 a virtual media server maintaining virtual drives and a virtual server database,  
3 said virtual drives containing library data from said removable storage media; and  
4 a library manager controlling said accessor and maintaining a library manger  
5 database.

1 16. A storage subsystem as in claim 15, wherein said library manger automatically  
2 selects and tests said test storage media.

1 17. A storage subsystem as in claim 14, further comprising an input/output (I/O)  
2 station for operator input.

1        18.     A storage subsystem as in claim 14, wherein said removable storage media and  
2        test storage media are magnetic tape on magnetic tape cartridges.

1        19.     A storage subsystem as in claim 18, wherein visual input unit is a bar code  
2        scanner scanning a bar code label on each of said magnetic tape cartridges.

1        20.     A storage system including a storage subsystem as in claim 14, said storage  
2        system connectable to a network and further comprising:  
3             at least one host system interfaced with said storage subsystem;  
4             a configuration database associating removable storage volumes in said storage  
5        subsystem coupled to said host system; and  
6             a management database providing data management information for data on said  
7        removable storage volumes, each said selected test storage media being tested  
8        transparently to each said host system.